

Water Quality Standards



Willamette Basin Mercury Variance Rulemaking – Justification for the Variance

November 1, 2018
DEQ Headquarters

Presentation Objectives

- Committee members understand the information DEQ will present to EPA to justify the variance.
- Committee members have the opportunity to provide any information to DEQ that is relevant to the justification.
- DEQ understands committee members' level of support, questions and concerns.



Willamette Basin Variance Factor

1. Naturally
Occurring Pollutant
Concentrations

2. Natural, ephemeral,
intermittent or low
flow conditions

3. Human-caused
conditions or sources
of pollution

4. Dams, diversions, or
other hydrologic
modifications

5. Physical
Conditions

6. Substantial and
widespread economic
and social impact

Willamette Basin Variance Factor

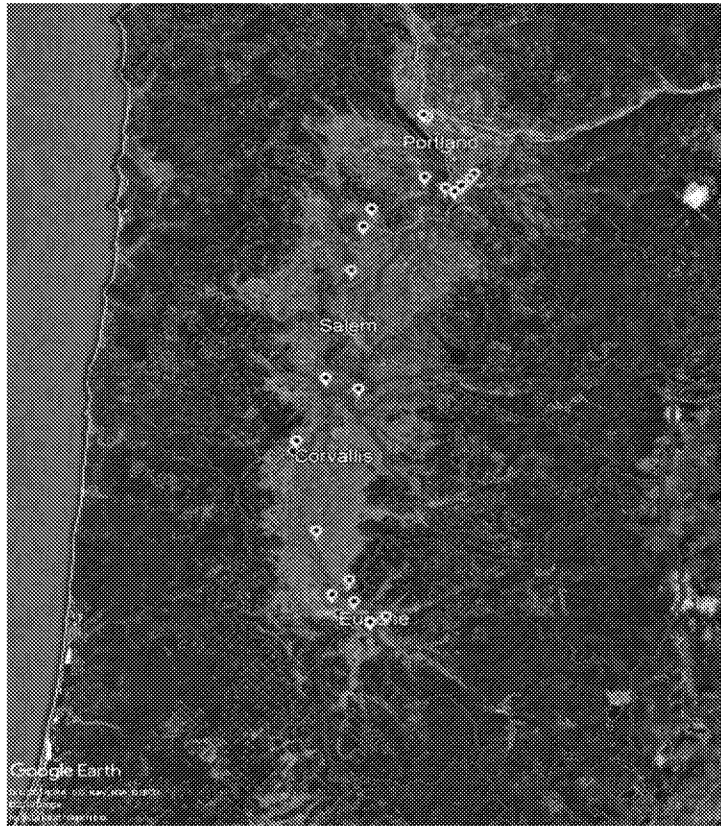
“Human-caused conditions or sources of pollution prevent the attainment of the use *and* cannot be remedied *or* would cause more environmental damage to correct than leave in place.”

Summary

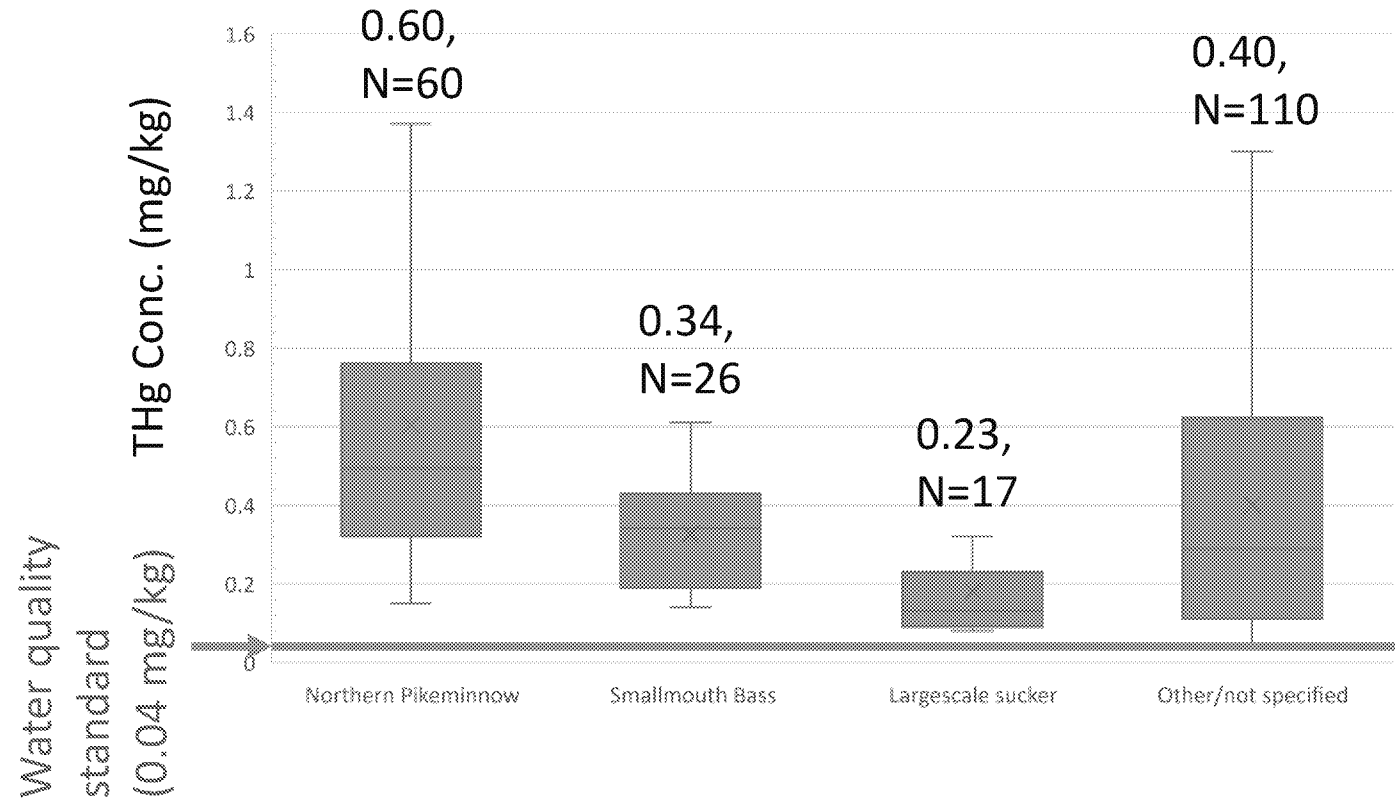
- Hg, primarily from atmospheric deposition, prevents attaining the “human health, fish consumption only” use during the term of variance.
- Cannot be remedied by discharger or the state during the term of variance.
- No feasible treatment will meet WQBELs based on the underlying standard.



Mercury in Willamette fish tissue



Source: (ODEQ data 2008-2010)

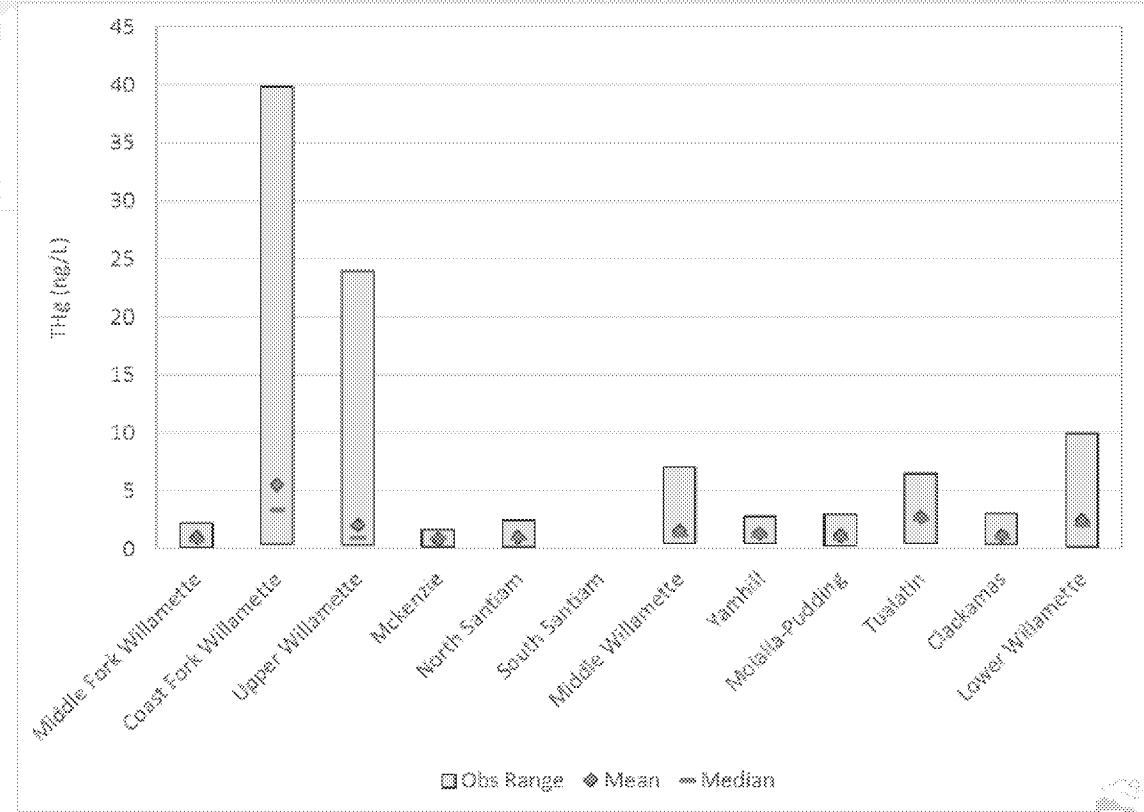


Translation of WQS to Water Column Concentration

- 0.14 ng/l (draft)
- Basis for effluent limits

Water Column THg Concentrations

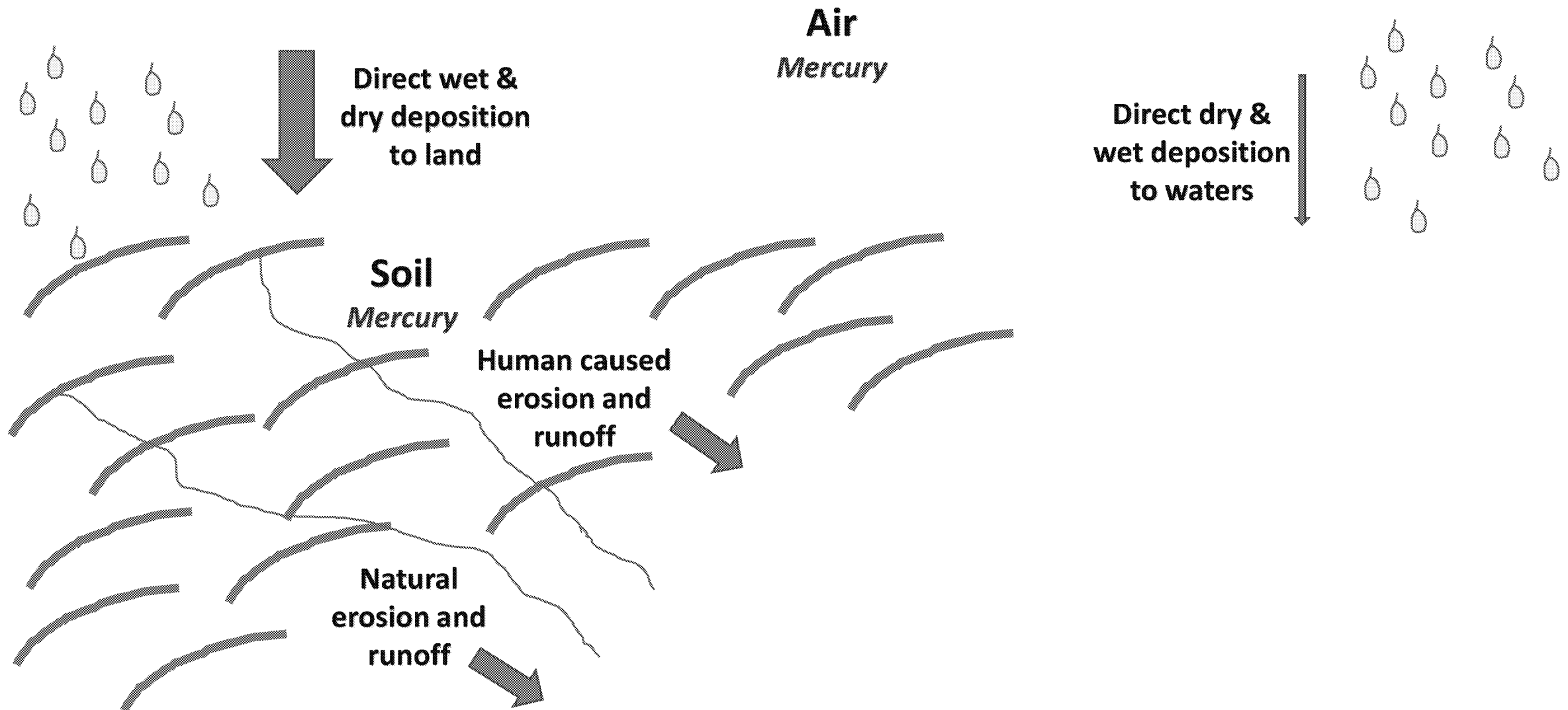
- ▶ Summary of water column THg with censored data corrected using ROS
- ▶ No data available for South Santiam
- ▶ 2006 THg Target
 - 0.92 ng/L
- ▶ Mean THg:
 - Lowest: McKenzie (0.81 ng/L; n=13)
 - Highest: Coast Fork (5.5 ng/L; n=122)
- ▶ Maximum THg:
 - Lowest: McKenzie (1.7 ng/L)
 - Highest: Coast Fork (40 ng/L)



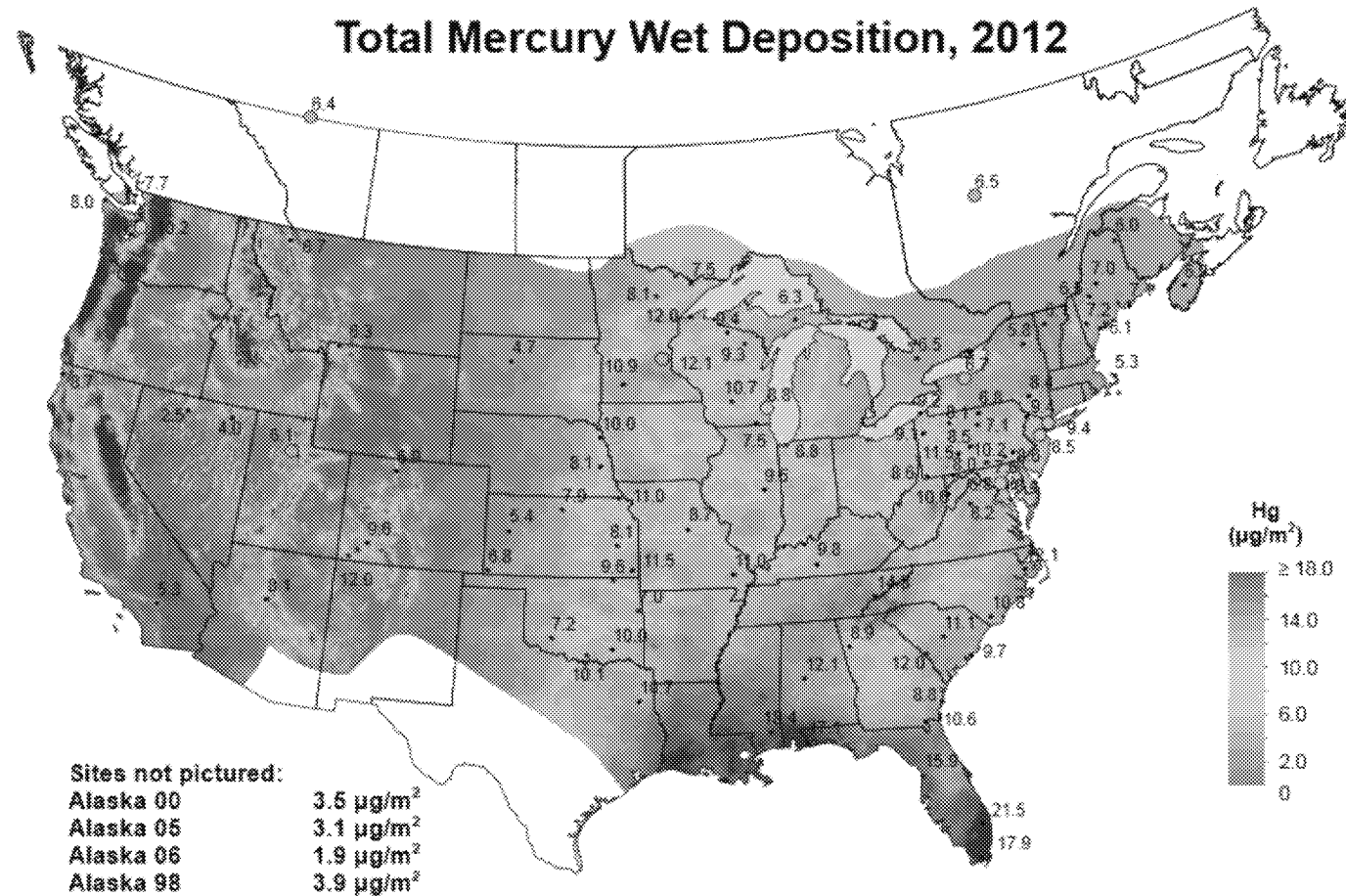
Global sources of atmospheric mercury*



Willamette Basin Mercury Sources and Movement to Waterbodies

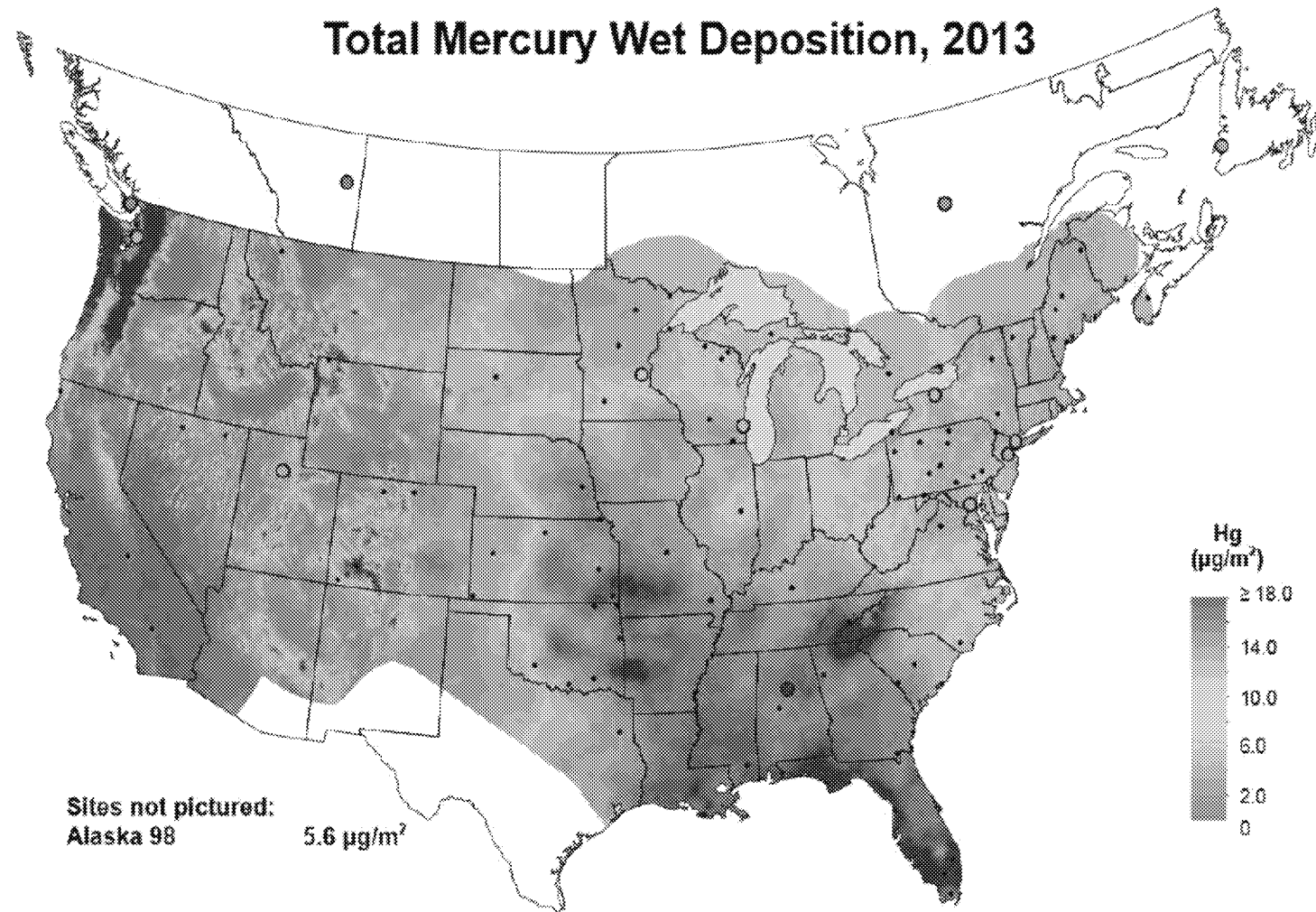


Deposition of global mercury



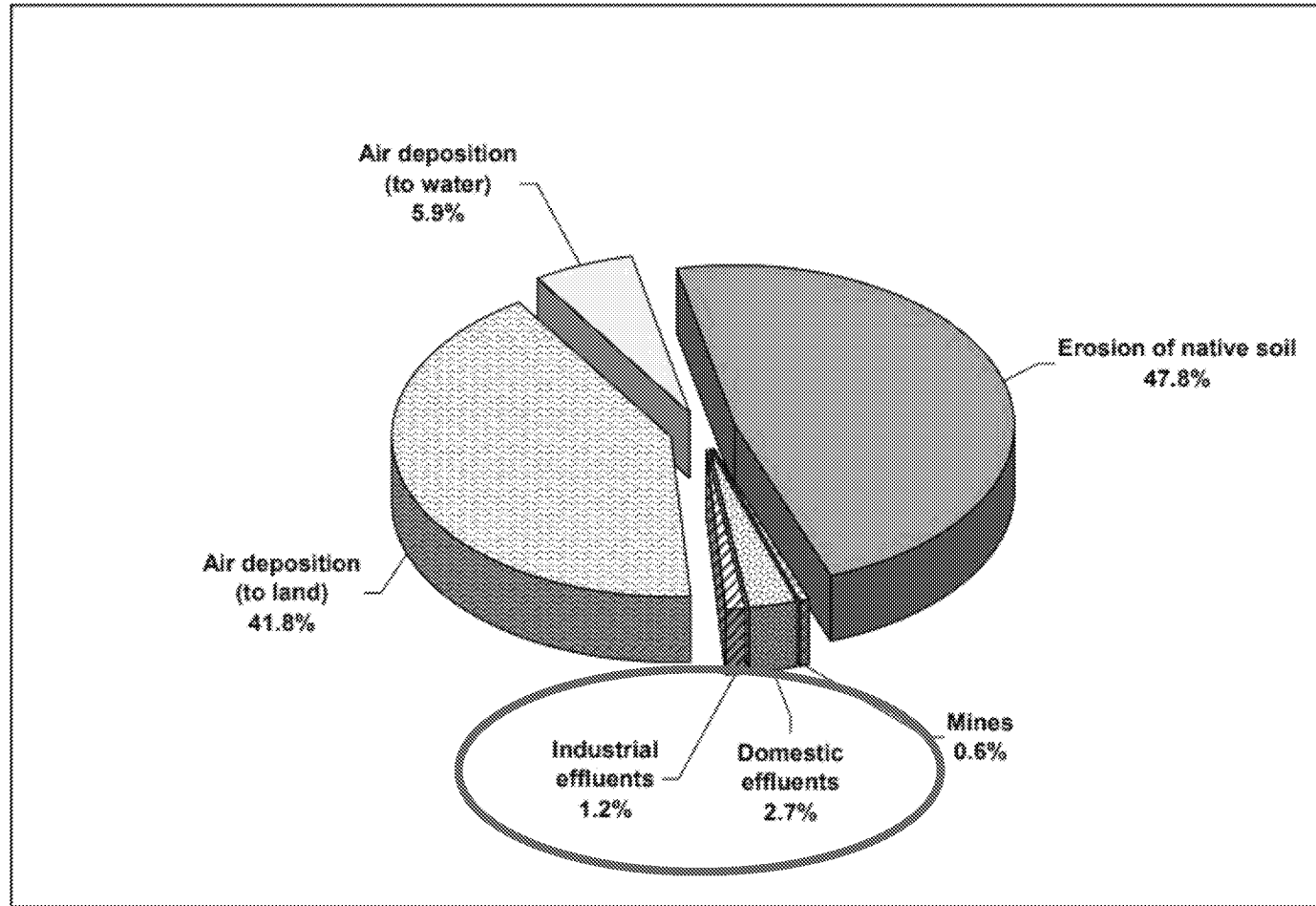
National Atmospheric Deposition Program/Mercury Deposition Network
<http://nadp.isws.illinois.edu>

Deposition of global mercury



Willamette Basin Mercury Load Model

Figure 3.3 Relative Load Contributions for the Mainstem Willamette River System by Source Category (Total Load = 128.5 kg/yr).



Use attainment – general

- The State and dischargers have little control of deposition.
- Actions can be made toward meeting the standard, but will take many years and many of those actions are outside the control of point sources.



Standards attainment – point sources

- Feasible treatment will not attain WQBELs.



Questions

